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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,841	02/11/2002	Keiji Emoto	00862.022517	8954

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EXAMINER

MOHANDESI, IRAJ A

ART UNIT PAPER NUMBER

2834

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/068,841

Applicant(s)

EMOTO, KEIJI

Examiner

Iraj A Mohandesi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-31 and 34-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-25, 28, 31 and 34-45 is/are allowed.
- 6) ☒ Claim(s) 10-22, 26 and 29 is/are rejected.
- 7) ☒ Claim(s) 27 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/03/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10,11,15,17-19,22,26,29 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashashi US patent 5,770,899.

Hashashi'899 discloses a linear motor a coil (35), a magnet (39) one of said coil and said magnet moving relative to the other of said coil and said magnet by flowing a current to said coil (see abstract), and a metal film (36, see column 4,lines 34- 40)) arranged in at least a portion between said coil and said magnet (see Fig.1), the metal film is nonmagnetic (see column 4,line 34),such a nickel, stainless steel (inherently mirror polished),stator comprises a jacket (tubing 36) forming a flow path through which a refrigerant flows (Fig.1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-14, 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee US patent 6,130,490.

Hashashi'899 fails to teach a linear motor having an electron beam exposure apparatus.

With regards to claim 19, Lee'490 discloses a linear motor having an electron beam apparatus (see abstract) for the purpose of reflecting and imaging of illumination.

Therefor it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Hashashi'899 linear motor with an electron beam apparatus taught by Lee'490 for the purpose of reflecting and imaging of illumination.

With regards to claims 12-14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use different material for plating such as nickel or gold as a nonmagnetic material with a thickness of 10 micro m to 30 micro m for the purpose of higher emissive (for heat radiation) ,since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the indented use as a matter of obvious design choice in re Leeshin 125 USPQ 416.

and also it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art .In re Boesh, 617 F.2d

272,205 USPQ 215 (CCPA).

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination Hashashi'899 and Lee'490 as applied to above, and further in view of Li, 6417,917.

Combination Hashashi'899 and Lee'490 fails to teach a chamber surrounding said stage and a vacuum mechanism.

Li'917 discloses a linear motor having a chamber surrounding said stage (22,23,42 see Fig.1) and a vacuum mechanism (column 28,line 3) for the purpose of reducing the generated heat in the stator coil,

Therefore it would have been obvious to one having skill in the art at the time the invention was made to modify combination Hashashi'899 and Lee'490 linear motor with a vacuum mechanism as taught by Li, 914 for the purpose of reducing the generated heat in the stator coil.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashashi'899 and further in view of Karidis US patent 5,153,472.

Hashashi'899 fails to teach a linear motor wherein a metal film is grounded.

Karidis'472 discloses a linear motor, wherein a metal film (the housing 80 is grounded column 10,line 22) for the purpose of minimizing effect of capacitance and noise pick up.

Therefore it would have been obvious to one having skill in the art at the time the invention was made to combine Hashashi'899 linear motor with a metal film is grounded as taught by Karidis'472 for the purpose of minimizing effect of capacitance and noise pick up.

Allowable Subject Matter

7. Claims 27 and objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 27.

9. The prior art of the record in particular Hashashi'899 and Lee'490 and Karidis US patent 5,153,472 do not teach a supporting structure for a linear motor including inter alia, a movable element comprises a support member supporting said magnet and said metal film is provided at least at a portion of said support member which faces said coil.

Regarding claim 30.

The prior art of the record in particular Hashashi'899 and Lee'490 and Karidis US patent 5,153,472 do not teach a supporting structure for a linear motor including inter alia, a metal film is provided at a surface of said jacket.

10. Claims 28,31,34 are allowed, which were objected in previous office action containing allowable subject of matter, have been rewritten in independent form,

The following is an examiner's statement of reasons for allowance:

Regarding claim 28.

The prior art of the record in particular Hashashi'899 and Lee'490 and Karidis US patent 5,153,472 do not teach a supporting structure for a linear motor including inter alia, a support member supporting said magnet and said metal film is

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provided at least at one of a side of said support member which faces said coil and a side of said support member which does not face said coil.

Regarding claim 31.

The prior art of the record in particular Hashashi'899 and Lee'490 and Karidis US patent 5,153,472 do not teach a supporting structure for a linear motor including inter alia , a metal film provided at least at a surface of said jacket, wherein said metal film comprises one of nickel and gold, and a surface of said metal film is subjected to mirror polishing.

Regarding claim 34.

The prior art of the record in particular Hashashi'899 and Lee'490 and Karidis US patent 5,153,472 do not teach a supporting structure for a linear motor including inter alia , a support member supporting said magnet'. a metal surface subjected to mirror polishing and arranged in at least a portion between said coil and said support member, a yoke supporting said coil, said metal surface being provided at said yoke.

Claims 23,24,35-45 are allowed.

The prior art of the record in particular Hashashi'899 and Lee'490 and Karidis US patent 5,153,472 do not teach a supporting structure for a linear motor including inter alia , a jacket covering said coil and forming a flow path through which a refrigerant flows; and a metal film is provided at least at a surface of said jacket which faces said magnet.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should

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preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Communication

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Iraj A Mohandesi whose telephone number is 571-272-2028. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IM May 5, 2004


BURTON S. MULLINS
PRIMARY EXAMINER